



**revizije** audits  
**recenzije** reviews





→  
revizije | audits  
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V Sloveniji ureja področje graditve in z njim povezanih dejavnosti Zakon o graditvi objektov (ZGO-1). Ta s svojimi podzakonskimi akti med drugim opredeljuje tudi vrste objektov in sicer jih loči na zahtevne, manj zahtevne, nezahtevne in enostavne objekte.

Predpisana so tudi pravila za izdelovanje (projektiranje) projektne dokumentacije. Za projekte za pridobitev gradbenega dovoljenja (PGD) za zahtevne objekte pa zakon zahteva še, da se opravi nad njimi revizijo, t.j. verificirano strokovno kontrolo, ki jo opravijo strokovnjaki z licenco - pooblaščen inženirji/projektanti z dopolnilnim strokovnim izpitom za odgovornega revidenta.

Revizija projektne dokumentacije po določilih ZGO-1 je obvezna samo za projekte zahtevnih objektov v fazi PGD in to le za tiste njegove dele, ki dokazujejo izpolnjevanje bistvenih zahtev. Revizija se zahteva tudi za projektno dokumentacijo, za katero je tako določeno s posebnimi predpisi.

Namen in bistvo revizije projektne dokumentacije za zahtevne objekte in za projektno dokumentacijo za katero je tako določeno s posebnimi predpisi je v tem, da se z njo preveri, če je z načrti tehničnih rešitev zagotovljena zanesljivost načrtovanega objekta. Revizija se opravlja nad zaključenim in dokončno izdelanim projektom.

- Revizija projektne dokumentacije PGD je kontrola predpisanih bistvenih zahtev, ki jih bo moral izkazovati zgrajeni objekt.
- Revizija naj bi bila v pomoč in oporo upravnemu organu, ki mu zato ni potrebno zaposliti ustreznega strokovnega kadra za odgovorno tehnično preverjanje projektov, temveč zadoščajo upravni delavci – specialisti za upravni postopek (ZUP) pri izdaji gradbenega dovoljenja.
- Revizija je predpogoj (conditio sine qua non) za pridobitev gradbenega dovoljenja za zahtevne objekte, kot jih navaja Uredba o vrstah objektov glede na zahtevnost. Med zahtevne objekte sodijo tudi objekti državnega pomena.
- Če formalno še tako kvalitetno izdelan projekt PGD ne izkazuje, da je na njem bil uspešno zaključen postopek revizije oziroma, če v vodilni mapi nima vpetega na predpisanem obrazcu izdelanega, podpisanega in ožigosanega povzetka revizijskega poročila, izdaja gradbenega dovoljenja ni mogoča.
- Za pridobitev gradbenega dovoljenja zadošča projekt PGD, ki namenjen za potrebe upravnega postopka. Za zgraditev objekta je predpisana izdelava dokumentacije PZI, za katero pa revizija ni zahtevana. Projektant mora zagotavljati točnost in varnost projektne rešitve PZI in mora zanje tudi odgovarjati.

In Slovenia, construction and related activities are regulated by the Construction Act (ZGO-1). Among other, this Act and its implementing regulations define the types of structures, distinguishing between demanding, less demanding, non-demanding and simple structures.

It also prescribes the rules for preparing (designing) project documentation. For Basic Design (PGD) for demanding works, the Act also stipulates that they should be subject to an audit, i.e. verified expert control, conducted by licensed experts – authorised engineers/project designers who have passed a supplementary professional examination for a responsible auditor.

An audit of project documentation according to the ZGO-1 is mandatory only for the projects involving demanding structures in the stage of acquiring the building permit and only for those parts of the project for which it has been proved that they fulfil the essential requirements. An audit is required also for project documentation for which an audit is stipulated by separate regulations.

The purpose and main goal of audit of the project documentation for demanding structures and of the project documentation for which an audit is stipulated by separate regulations is to verify if the plans of technical solutions provide for reliability of the planned structure. An audit is conducted for a completed and finalised project.

- An audit of Basic Design project documentation verifies if the essential requirements prescribed for a structure will be fulfilled.
- An audit should help and be of support to an administrative body, enabling it not to employ the relevant professional staff for responsible technical verification of projects, because administrative employees are sufficient – specialised in the administrative procedure (Administrative Procedure Act) involved in the issuance of a building permit.
- An audit is a precondition – conditio sine qua non – for the acquisition of a building permit for demanding structures, as stated by the Regulation on classification of construction with regard to their complexity. Demanding structures include structures of national importance.
- If a project for acquiring the building permit is formally of the highest quality, but it is not indicated that it has successfully passed an audit or if the main project file is lacking a summarised audit report on a prescribed form, signed and stamped, a building permit cannot be issued.
- A Basic Design designed for the purpose of administrative procedure is sufficient for obtaining the building permit. For construction, it is necessary to produce Detailed Design (PZI), for which an audit is not prescribed. A project designer must ensure the accuracy and safety of Detailed Design project solutions and must be responsible for them.



## KDO SME IZVAJATI REVIZIJO

Revizijo projektne dokumentacije sme opravljati pravna ali fizična oseba, ki izpolnjuje pogoje za projektanta in nastopa kot **revident**. Revident je pravna ali fizična oseba, ki kot gospodarsko dejavnost opravlja storitve pri reviziji projektne dokumentacije.

Revident mora za revizijo posameznih načrtov imenovati odgovornega revidenta. **Odgovorni revident** je posameznik, ki revidentu odgovarja, da so načrti, ki jih revidira, v skladu z gradbenimi predpisi in da bo objekt, zgrajen oziroma rekonstruiran na njihovi podlagi, izpolnjeval predpisane bistvene zahteve. Odgovorni revident je lahko samo posameznik, ki izpolnjuje zakonsko predpisane pogoje za odgovornega projektanta ustrezne stroke in ima pri pristojni poklicni zbornici opravljen dopolnilni strokovni izpit za revidiranje.

- Odgovorni revidenti sodelujejo z odgovornim vodjem revidiranja, po potrebi pa tudi med seboj. V predpisanem roku so dolžni sklop projekta, ki so ga prejeli v revizijo, strokovno pregledati in ugotoviti, če so bili pri projektiranju upoštevani vsi potrebni gradbeno-tehnični predpisi, ki zagotavljajo zanesljivost objekta ter izdelati revizijsko poročilo za svoj segment in se v njem jasno opredeliti ali:
  - je pregledani del projekta (načrt) izdelan
  - ima manjše pomanjkljivosti, ki jih je možno popraviti oz. dopolniti,
  - je izdelan nezadovoljivo oz. v neskladju z ZGO-1.
- Če odgovorni revident ugotovi usklajenost pregledanega načrta z zahtevami ZGO-1, izdela in svojemu revizijskemu poročilu priloži še Povzetek revizijskega poročila. Odgovorni revident ne sme opraviti revizije načrta oziroma projektne dokumentacije, pri kateri je sodeloval kot odgovorni projektant.

## ODGOVORNOST REVIDENTA IN ODGOVORNIH REVIDENTOV

Revident (hiša, organizacija) z verifikacijo in ustreznimi registracijami ter ustreznimi strokovnimi kadri nosi za svoje delo na področju revidiranja projektne dokumentacije tudi odgovornost in za svoje delo odgovarja po zakonu (ZGO-1).

S potrditvijo dokumentacije (izdajo povzetka revizijskega poročila) postaneta revident in odgovorni revident skupaj s projektantom in odgovornim projektantom solidarno odškodninsko odgovorna za njene napake zaradi neizpolnjevanja bistvenih zahtev.

Investitor nameravanega objekta, projektant, ki je izdelal projektno dokumentacijo za takšen objekt, izvajalec gradnje takšnega objekta, nadzornik nad gradnjo takšnega objekta in revident projektne dokumentacije za takšen objekt odgovarjajo za neposredno škodo, ki nastane tretjim osebam in izvirajo iz njegovega dela in njegovih pogodbenih obveznosti.

## WHO MAY CONDUCT AN AUDIT

An audit of project documentation may be conducted by a legal or natural person that fulfils the conditions for a project designer and acts as an **auditor**. The auditor is a legal or natural person that provides services of auditing project documentation as a commercial activity.

The auditor must appoint a responsible auditor for the audit of individual plans. The **responsible auditor** is the individual answerable to the auditor for ensuring that the plans audited are in accordance with construction regulations and that the structure constructed or reconstructed on the basis thereof will fulfil the prescribed essential requirements. Only an individual that fulfils the conditions prescribed by the law for the responsible project designer in an appropriate profession and that has passed a supplementary professional examination in auditing at the relevant professional chamber may act as the responsible auditor.

- Responsible auditors cooperate with the responsible head of auditing and, if necessary, amongst themselves. They are obligated to professionally examine the project segment received for audit within the prescribed deadline and to establish whether during planning all the required construction-technical regulations were complied with that ensure the reliability of the structure, and they are obligated to produce an audit report for their segment and therein clearly state if:
  - the audited segment of the project (plan) has been made,
  - it contains minor deficiencies that can be remedied or supplemented,
  - it is unsatisfactory or inconsistent with the ZGO-1.
- If the responsible auditor establishes that the audited plan is consistent with the requirements of the ZGO-1, they produce and attach to their audit report a Summary of the Audit Report. The responsible auditor may not audit the plan or project documentation where it participated as a responsible project designer.

## RESPONSIBILITY OF THE AUDITOR AND RESPONSIBLE AUDITORS

An auditor (firm, organisation) with verification, suitable registrations and adequate professional personnel is responsible for its work in the area of project documentation auditing also according to the law (ZGO-1).

By approving the documentation (issuing the summary of the audit report), an auditor and a responsible auditor become, together with the project designer and responsible project designer, joint and severally liable for damages arising from documentation error owing to a failure to fulfil essential requirements.

The investor of an intended structure, the project designer that drew up the project documentation for such a structure, the contractor for the construction of such a structure, the supervisor of the construction of such a structure and the auditor of the project documentation for such a structure are liable for direct damage suffered by third parties that derives from their work and their contractual obligations.

## POTEK REVIZIJE

Z revizijo posameznih sklopov projekta za pridobitev gradbenega dovoljenja se preverja, ali je z načrti tehničnih rešitev dokazano izpolnjevanje bistvenih zahtev.

V fazi revidiranja projektne dokumentacije mora revident z odgovornimi revidenti preveriti ali je s posameznimi načrti tehničnih rešitev v projektu dokazano izpolnjevanje ene, več ali vseh predpisanih bistvenih zahtev, ki so po ZGO-1 določene kot:

- mehanska odpornost in stabilnost
- varnost pred požarom
- higienska zaščita in zaščita okolice
- varnost pri uporabi
- zaščita pred hrupom
- varčevanje z energijo in ohranjanje toplote

Revident za revizijo posameznih načrtov imenuje odgovorne revidente za posamezne sklope projektne dokumentacije. Dolžnost odgovornega revidenta pri revizijskem kontrolnem pregledu posamičnega načrta je, da ugotovi, ali ta izpolnjuje vse potrebne bistvene zahteve.

Odgovorni revident pregleda (revidira) prevzeti načrt, o svojih ugotovitvah napiše revizijsko poročilo in če ni ugotovil neskladnosti z gradbeno-tehničnimi predpisi, izda povzetek revizijskega poročila na predpisanemu obrazcu.

Ostala opažanja ali pripombe odgovornega revidenta, ki presegajo obseg revizije, se lahko vpišejo kot dodatne ugotovitve ali priporočila, vendar ni nujno, da jih projektant oz. investitor upošteva.

Če se z osnovno revizijo ugotovi, da projekt ne odgovarja vsem zakonskim zahtevam se v dogovoru z investitorjem projektno dokumentacijo vrne projektantu v dopolnitev po utemeljenih pripombah odgovornih revidentov.

Ustrezno dopolnjen projekt projektant posreduje v ponovni pregled istim odgovornim revidentom, ki so sodelovali že v prvi fazi revidiranja. Če je pri ponovnem pregledu ugotovljeno, da je projekt ustrezno dopolnjen in so pomanjkljivosti odpravljene, izdelajo revidenti končno (pozitivno) revizijsko poročilo ter izdajo (pozitivni) povzetek revizijskega poročila.

S tem je revizija projekta PGD zaključena. Povzetek revizijskega poročila se vloži v vodilno mapo projekta in šele s tako potrjenim in opremljenim projektom PGD se lahko začne upravni postopek za pridobitev gradbenega dovoljenja pri pristojnem upravnem organu.

## AUDIT PROCEDURE

Individual segments of the project for the acquisition of the building permit are audited to verify if the plans of technical solutions demonstrate fulfilment of the essential requirements.

In the project documentation auditing phase, an auditor must together with responsible auditors verify if the individual plans of the technical solutions demonstrate the fulfilment of one, several or all the prescribed essential requirements, which the ZGO-1 defines as:

- mechanical resistance and stability;
- protection against fire;
- hygiene protection and environmental protection;
- safety in use;
- noise protection;
- energy efficiency and heat retention.

An auditor appoints responsible auditors for the audit of individual segments of project documentation. A responsible auditor conducting an audit of an individual plan is responsible for determining if the plan fulfils all the necessary essential requirements.

A responsible auditor examines (audits) the plan, draws up an audit report about the findings and, if no inconsistencies with the construction-technical regulations have been established, issues a summary of the audit report on the prescribed form.

Other observations or comments of the responsible auditor that go beyond the scope of the audit may be noted as additional findings or recommendations, but the project designer or investor is not obligated to comply with them.

If the basic audit reveals that the project does not fulfil all the legal requirements, the project documentation is in agreement with the investor returned to the project designer for supplementation according to substantiated comments of the responsible auditors.

Appropriately supplemented project is submitted by the project designer for a re-audit to the same responsible auditors who participated in the first auditing phase. If the re-audit reveals that the project has been adequately supplemented and that the deficiencies have been eliminated, the auditors draw up a final (positive) audit report and issue a (positive) summary of the audit report.

This concludes the audit of the project for acquiring the building permit. A summary of the audit report is filed in the main project file and only when the project for acquiring the building permit is thus approved and completed, the administrative procedure may commence for acquiring the building permit from the competent administrative authority.

## ORGANIZACIJA IN IZVAJANJE REVIZIJ PROJEKTNE DOKUMENTACIJE V DRI

DRI upravljanje investicij, d.o.o. oz. njegova pravna predhodnica, družba DDC svetovanje inženiring, d.o.o., je že v letu 2004 poskrbela za dodatno usposobitev okrog 30 visoko strokovnih inženirjev - projektantov, ki so si pridobili licenco za revidiranje projektne dokumentacije. Tako je družba postala največja revidentska hiša v Sloveniji.

Od leta 2004, ko so za projekte PGD za zahtevne objekte postale po določilih ZGO-1 oblikovane tudi revizije, smo v naši hiši izvršili že preko 400 revizij za številne investitorje, primarno za DARS in DRSC, ministrstva (MORS, MOP, MNZ, MJU), občine, nekatere velike investicijske hiše, itd.

### RECENZIJE

DRI upravljanje investicij, d.o.o. izvaja tudi recenzije projektov – t.j. podrobne ekspertne preglede vseh vrst projektne dokumentacije. S tem investitorju omogočamo lažjo strokovno odločitev za optimalno projektno rešitev. Tako smo doslej samo za naročnika DARS uspešno opravili okoli 10.000 recenzij.

Recenzija projektne dokumentacije je obvezna, če je za izvedbo investicijskih vzdrževalnih del, vzdrževalnih del v javno korist ali gradnjo predpisana izdelava projektne dokumentacije. Opravlja se nad vsemi sklopi projekta, vključno s kontrolo inženirskega popisa del in količin ter predračuna.

Recenzent je kot predstavnik investitorja posredno v pogodbenem odnosu s projektantom.

Recenzija je opredeljena kot zaključni akt projektiranja in se lahko nanaša na vse vrste projektne dokumentacije (IDZ, IDP, PGD, PZI, PID) za vse vrste objektov (zahtevni, manj zahtevni, nezahtevni, enostavni).

Recenzija izpostavi morebitne neuskkljenosti in navadno tudi predlaga, kako jih dopolniti, kar pa ni za nikogar od udeležencev obvezujoče. Med izvajanjem recenzije se lahko obravnavani projekt spreminja, dopolnjuje in popravlja popravljati, tako da je končna rešitev optimalna za investitorja in predstavlja prijazen oz. sprejemljiv poseg v okolje.

## ORGANISATION AND IMPLEMENTATION OF PROJECT DOCUMENTATION AUDITS AT DRI

DRI upravljanje investicij, d.o.o. (DRI Investment Management Ltd) and its legal predecessor, DDC svetovanje inženiring, d.o.o. (DDC Consulting & Engineering Ltd), already in 2004 provided additional training for 30 highly-qualified engineers – project designers, who obtained a licence for auditing project documentation. This company thus became the largest construction auditing firm in Slovenia.

Since 2004, when the ZGO-1 introduced mandatory audits of the Basic Design, the company DRI has carried out over 400 audits for numerous investors, primarily DARS (Motorway Company in the Republic of Slovenia) and DRSC (Slovenian Roads Agency), ministries (Ministry of Defence, Ministry of the Environment and Spatial Planning, Ministry of the Interior, Ministry of Public Administration), municipalities, some major investment firms, etc.

### REVIEWS

DRI upravljanje investicij, d.o.o. also carries out project reviews – i.e. detailed expert examinations of all types of project documentation. These facilitate an investor to make an expert decision regarding the optimal project solution. So far we have successfully carried out about 10,000 reviews for DARS alone.

The audit of design documentation is obligatory when for the implementation of investment and maintenance works; maintenance works to the public benefit or construction; the preparation of design documentation is prescribed. It covers all segments of a project, including the control of the design engineer's inventory of works and quantity specifications, and a preliminary cost estimate.

A reviewer is a representative of the investor and has an indirect contractual relationship with the project designer.

A review is defined as the final act of project design and may refer to any type of project documentation (IDZ – Conceptual Design, IDP – Preliminary Design, PGD – Basic Design, PZI – Detailed design, PID – Design of Implemented Works) for any type of structure (demanding, less demanding, non-demanding, simple).

A review highlights any inconsistencies and usually provides recommendation on supplementation, but is not binding on any of the parties. During a review, the relevant project may be altered, supplemented and corrected, so that the final solution is optimal for the investor and represents an environment-friendly and acceptable development affecting the environment.





reference | references



## PREDOR MARKOVEC NA HC KOPER - IZOLA MARKOVEC TUNNEL ON KOPER - IZOLA EW

NAROČNIK CLIENT	ZAKLJUČEK REVIZIJE AUDIT CONCLUSION	PREGLEDANO V SKLOPU REVIZIJE IN RECENZIJE INSPECTED AS PART OF REVIEW AND AUDIT
<p>DARS, Družba za avtoceste v Republiki Sloveniji d.d.</p> <p>DARS, Motorway Company in the Republic of Slovenia</p>	<p>JULIJ/JULY 2007</p>	<ul style="list-style-type: none"> <li>■ gradbene konstrukcije</li> <li>■ GG poročila</li> <li>■ arhitektura portalov</li> <li>■ elektro instalacije in oprema</li> <li>■ strojne inštalacije in oprema</li> <li>■ študija požarne varnosti</li>   <li>■ Structures</li> <li>■ GG reports</li> <li>■ Portal architecture</li> <li>■ Electric installations and equipment</li> <li>■ Mechanical installations and equipment</li> <li>■ Fire safety study</li> </ul>

Dolžina desne cevi predora (smer Koper – Izola) je 2.144 m, dolžina leve cevi pa 2.174 m. Prečni sklon vozišča je od 2,5% do 3,5%. Vozna pasova sta široka 3,50 m, robna pasova pa 0,35 m. Skupna širina znaša 7,70 m. Vertikalna višina voznega svetlega profila je 4,70 m.

The length of the right tunnel tube (in the direction from Koper to Izola) is 2,144 m, the length of the left tube is 2,174 m. The pavement cross fall is between 2.5% and 3.5%. The driving lanes are 3.50 m wide; the marginal strips are 0.35 m wide. Total length is 7.70 m. The vertical height of the driving clearance is 4.70 m.





## AC SLIVNICA - DRAŽENCI (SKLOPI A, B, C) SLIVNICA - DRAŽENCI MW (LOTS A, B, C)

NAROČNIK CLIENT	ZAKLJUČEK REVIZIJE AUDIT CONCLUSION	PREGLEDANO V SKLOPU REVIZIJE IN RECENZIJE INSPECTED AS PART OF REVIEW AND AUDIT
<p>DARS, Družba za avtoceste v Republiki Sloveniji d.d.</p> <p>DARS, Motorway Company in the Republic of Slovenia</p>	<p>MAJ/MAY 2008</p>	<ul style="list-style-type: none"> <li>■ krajinska arhitektura</li> <li>■ gradbene konstrukcije – cesta, deviacije, priključki in križišča, plato počivališča, plato za AC bazo</li> <li>■ premostitveni objekti (podvozi, prepusti, nadvozi, mostovi, viadukti)</li> <li>■ odvodnja in čiščenje meteornih voda</li> <li>■ elektro inštalacije (visokonapetostni vodi, SN, NN, TK vodi, javna razsvetljava)</li> <li>■ strojne inštalacije (plinovod)</li> <li>■ AC baza (načrt arhitekture, gradbene konstrukcije, elektro in strojne inštalacije)</li>   <li>■ Landscape architecture</li> <li>■ Structures – road, deviations, access and exit points and intersections, rest area plateau, MW base plateau</li> <li>■ Bridge structures (underpasses, culverts, overpasses, bridges, viaducts)</li> <li>■ Drainage and treatment of precipitation water</li> <li>■ Electric installations (high-voltage power lines, medium- and low-voltage power lines, telecommunication lines, public lighting)</li> <li>■ Mechanical installations (gas lines)</li> <li>■ MW base (architectural plan, structures, electric and mechanical installations)</li> </ul>

- sklop A od km 4+480 do km 13+679,75
- sklop B od km 0,000 do km 4+480
- sklop C od km 0+350 do km 3+150

- Lot A from 4+480 to km 13+679.75
- Lot B from km 0.000 to km 4+480
- Lot C from km 0+350 to km 3+150

Avtocesta je načrtovana kot štiripasovnica z odstavnimi pasovi in vmesnim ločilnim pasom s prečnim profilom 26,2 m. Na celotni trasi so bili zgrajeni 4 mostovi, 16 nadvozov, 8 podvozov, trije viadukti, od tega dva čez železnico v Hajdini. Zgrajeno je tudi obojestransko počivališče Dravsko polje.

The motorway was planned as a four-lane one, with emergency lanes and a severance lane with a 26.2 m cross section. A total of 4 bridges, 16 overpasses, 8 underpasses were constructed on the route, as well as three viaducts, two of which cross railway lines at Hajdina. A rest area on both sides of the route was also constructed at Dravsko polje.



## AC PLUSKA - PONIKVE IN PONIKVE - HRASTJE PLUSKA - PONIKVE AND PONIKVE - HRASTJE MWs

NAROČNIK CLIENT	ZAKLJUČEK REVIZIJE AUDIT CONCLUSION	PREGLEDANO V SKLOPU REVIZIJE IN RECENZIJE INSPECTED AS PART OF REVIEW AND AUDIT
<p>DARS, Družba za avtoceste v Republiki Sloveniji d.d.</p> <p>DARS, Motorway Company in the Republic of Slovenia</p>	<p>JUNIJ/JUNE 2008</p>	<ul style="list-style-type: none"> <li>■ krajinska arhitektura</li> <li>■ gradbene konstrukcije – cesta, deviacije, priključki, križišča, prometna ureditev</li> <li>■ gradbene konstrukcije – premostitveni objekti (predor, nadvozi, prepusti)</li> <li>■ meteorna kanalizacija</li> <li>■ ukrepi za zaščito voda pred onesnaženjem z AC</li> <li>■ električne inštalacije (javna razsvetljava, SN vodi, NN vodi)</li>   <li>■ Landscape architecture</li> <li>■ Structures - road, deviations, access and exit points, intersections, traffic arrangement</li> <li>■ Structures – bridge constructions (tunnel, overpasses, culverts)</li> <li>■ Precipitation sewage network</li> <li>■ Measures for preventing pollution of water from</li> </ul>

Skupna dolžina štiripasovne avtoceste z odstavnimi pasovi ali pasovi za počasni promet in vmesnim ločilnim pasom je 14,7 km. Na trasi je zgrajeno več večjih objektov med njimi predor Leščevje, viadukti Ponikve, Trebnje in Dole ter pokriti vkop.

The total length of the four-lane motorway with emergency and slow traffic lanes and a severance lane is 14.7 km. Several major structures were built on the route, including the Leščevje tunnel, and the Ponikve, Trebnje and Dole viaducts, as well as a cut-and-cover.





## AC BAZA - IZPOSTAVA PTUJ NA AC SLIVNICA - DRAŽENCI MW BASA - PTUJ BRANCH OFFICE ON SLIVNICA - DRAŽENCI MW

NAROČNIK CLIENT	ZAKLJUČEK REVIZIJE AUDIT CONCLUSION	PREGLEDANO V SKLOPU REVIZIJE IN RECENZIJE INSPECTED AS PART OF REVIEW AND AUDIT
<p>DARS, Družba za avtoceste v Republiki Sloveniji d.d.</p> <p>DARS, Motorway Company in the Republic of Slovenia</p>	<p>SEPTEMBER/SEPTEMBER 2008</p>	<ul style="list-style-type: none"> <li>■ arhitektura</li> <li>■ gradbene konstrukcije</li> <li>■ elektro inštalacije in oprema</li> <li>■ strojne inštalacije in oprema (vodovod, kanalizacija, prezračevanje)</li> <li>■ študija požarne varnosti</li>   <li>■ Architecture</li> <li>■ Structures</li> <li>■ Electric installations and equipment</li> <li>■ Mechanical installations and equipment (water supply line, sewage network, ventilation)</li> <li>■ Fire safety study</li> </ul>

- upravna stavba: pritlična stavba tlorisnih dimenzij 11,30 x 16,65 m, višina slemena 5,40 m
- objekt velikih garaž: pritličen objekt tlorisnih dimenzij 15,3 x 30,30 m
- objekt malih garaž: pritličen objekt tlorisnih dimenzij 52,30 x 11,30 m
- skladišče posipa tlorisnih dimenzij 22,30 x 26,30 m
- nadstrešnica za parkirišče: jeklena konstrukcija tlorisa 18,24 x 6,45 m
- plinski plato tlorisa 8,50 x 3,60 m
- ekološki otok tlorisa 8,50 x 3,60 m
- tipska čistilna naprava

- Administrative building: Ground floor building, ground plan dimensions 11.30 x 16.65 m, ridge height 5.40 m
- Structure with large garages: Ground floor structure, ground plan dimensions 15.3 x 30.30 m
- Structure with small garages: Ground floor structure, ground plan dimensions 52.30 x 11.30 m
- Gritting storage, ground plan dimensions 22.30 x 26.30 m
- Parking lot roofing: Steel structure, ground plan dimensions 18.24 x 6.45 m
- Gas plateau, ground plan dimensions 8.50 x 3.60 m
- Separate waste collecting point, ground plan dimensions 8.50 x 3.60 m
- Standard treatment plant



## IZOBRAŽEVALNI PODCENTER SEŽANA SEŽANA TRAINING SUB-CENTRE

NAROČNIK CLIENT	ZAKLJUČEK REVIZIJE AUDIT CONCLUSION	PREGLEDANO V SKLOPU REVIZIJE IN RECENZIJE INSPECTED AS PART OF REVIEW AND AUDIT
<p>Ministrstvo za obrambo Ministry of Defence</p>	<p>MAREC/MARCH 2008</p>	<ul style="list-style-type: none"> <li>■ arhitektura</li> <li>■ gradbene konstrukcije</li> <li>■ elektro inštalacije in oprema</li> <li>■ strojne inštalacije in oprema (vodovod, prezračevanje, kanalizacija)</li>   <li>■ Architecture</li> <li>■ Structures</li> <li>■ Electric installations and equipment</li> <li>■ Mechanical installations and equipment (water supply line, ventilation, sewage network)</li> </ul>

- Nastanitveni objekt je dolg 54,43 m in na eni strani širok 10,26 na drugi pa 13,45 m. Del objekta je podkleten, del pa ne. Poleg kleti ima še pritličje in nadstropje.
- Prizidek je na mestu priključka na nastanitveni objekt širok 10,90 m in se stopničasto razširi na 17,0 m. V dolžino meri 21,50 m.
- Servisni objekt je širok 10,39 m in dolg 46,92 m. Objekt ima 2 etaži

- The accommodation facility is 54.43 m long, 10.26 m wide on one side, and 13.45 m wide on the other. One part of the facility is below the basement, the other is not. Beside the basement, it also has a ground floor and a floor.
- At the point where it meets the accommodation facility, the extension is 10.90 m wide, cascading to a width of 17.0 m. It is 21.50 m long.
- The service facility is 10.39 m wide and 46.92 m long. It has 2 storeys



## PREDOR LJUBNO NA AC PERAČICA - PODTABOR LJUBNO TUNNEL ON PERAČICA - PODTABOR MW

NAROČNIK CLIENT	ZAKLJUČEK REVIZIJE AUDIT CONCLUSION	PREGLEDANO V SKLOPU REVIZIJE IN RECENZIJE INSPECTED AS PART OF REVIEW AND AUDIT
<p>DARS, Družba za avtoceste v Republiki Sloveniji d.d.</p> <p>DARS, Motorway Company in the Republic of Slovenia</p>	<p>JANUAR/JANUARY 2009</p>	<ul style="list-style-type: none"> <li>■ gradbene konstrukcije</li> <li>■ elektro inštalacije</li>   <li>■ Structures</li> <li>■ Electric installations</li> </ul>

V sklopu rekonstrukcije desne polovice avtoceste je bil v celoti obnovljen tudi 260 m dolg predor Ljubno. Odstranjena je bila betonska notranja obloga, izveden dodaten izkop zaradi večje širine in izvedeni nova primarna podgradnja ter nova notranja armiranobetonska obloga predora.

V okviru elektro in strojne opreme predora so bili med drugim izvedeni razsvetljava, klic v sili in video nadzor.

As part of a reconstruction of the right half of the motorway, the 260 m long Ljubno tunnel was also reconstructed completely. The inner concrete lining was removed, an additional excavation executed due to increased width, and a new primary substructure executed, as well as a new inner reinforced-concrete lining of the tunnel.

The electric and mechanical equipment implemented in the tunnel included lighting, an emergency call system and video surveillance.



## VIADUKT LJUBNO NA AC PERAČICA - PODTABOR LJUBNO VIADUCT ON PERAČICA - PODTABOR MW

NAROČNIK CLIENT	ZAKLJUČEK REVIZIJE AUDIT CONCLUSION	PREGLEDANO V SKLOPU REVIZIJE IN RECENZIJE INSPECTED AS PART OF REVIEW AND AUDIT
DARS, Družba za avtoceste v Republiki Sloveniji d.d.  DARS, Motorway Company in the Republic of Slovenia	JANUAR/JANUARY 2009	<ul style="list-style-type: none"><li>■ načrt gradbenih konstrukcij</li><li>■ Construction plan</li></ul>

Nadomestni viadukt je zasnovan kot pravokotna kontinuirana AB prednapeta konstrukcija v treh razpetinah skupne dolžine 115 m.

The replacement viaduct was designed as a rectangular, continuous, RC pre-stressed structure with three spans totalling 115 m in length.





## VIADUKT TREBNJE NA AC PLUSKA - PONIKVE TREBNJE VIADUCT ON PLUSKA - PONIKVE MW

NAROČNIK CLIENT	ZAKLJUČEK REVIZIJE AUDIT CONCLUSION	PREGLEDANO V SKLOPU REVIZIJE IN RECENZIJE INSPECTED AS PART OF REVIEW AND AUDIT
<p>DARS, Družba za avtoceste v Republiki Sloveniji d.d.</p> <p>DARS, Motorway Company in the Republic of Slovenia</p>	<p>DECEMBER/DECEMBER 2009</p>	<ul style="list-style-type: none"> <li>■ načrt gradbenih konstrukcij</li> <li>■ Construction plan</li> </ul>

Viadukt Trebnje premošča reko Temenico, globine do 8 m in železniški progi Ljubljana – Karlovac in Trebnje – Sevnica. Zasnovan je kot pravokotna kontinuirana AB prednapeta konstrukcija v skupni dolžini 174 m. Položaj podpor in velikost razpetin pogojuje lokacija ovir, oblika doline, pogoji temeljenja in tehnologija gradnje prekladne konstrukcije.

The Trebnje viaduct crosses the River Temenica, which is up to 8 m deep, and the Ljubljana – Karlovac and Trebnje – Sevnica railway lines. It is designed as a rectangular, continuous, RC pre-stressed structure totalling 174 m in length. The position of supports and the size of spans are limited by the location of obstacles, the shape of the valley, the foundation conditions and the construction technology used for the superstructure.



## LETALIŠČE CERKLJE OB KRKI CERKLJE OB KRKI AIRPORT

NAROČNIK CLIENT	ZAKLJUČEK REVIZIJE AUDIT CONCLUSION	PREGLEDANO V SKLOPU REVIZIJE IN RECENZIJE INSPECTED AS PART OF REVIEW AND AUDIT
<p>Ministrstvo za obrambo Ministry of Defence</p>	<p>FEBRUAR/FEBRUARY 2009</p>	<p><b>I. FAZA:</b> podaljšanje vzletno pristajalne steze s spremljajočimi objekti in napravami</p> <ul style="list-style-type: none"> <li>■ gradbene konstrukcije za objekt gasilsko reševalne službe</li> <li>■ študija požarne varnosti</li> <li>■ dimenzioniranje zgornjega ustroja VPS in načrt EKK na območju VPS</li> <li>■ povezovalna cesta</li> <li>■ odvodnjavanje VPS in povezovalne ceste</li> <li>■ cestna razsvetljava</li> <li>■ telekomunikacije</li> <li>■ strojne inštalacije in strojna oprema</li> <li>■ varnostni načrt</li> </ul> <p><b>PHASE I:</b> Extension of take-off and landing runway with accompanying structures and devices</p> <ul style="list-style-type: none"> <li>■ Structures for the fire and rescue service facility</li> <li>■ Fire safety study</li> <li>■ Dimensioning of the superstructure of the take-off and landing runway and the electric cable ducts in the runway area</li> <li>■ Connecting road</li> <li>■ Drainage of the take-off and landing runway and the connecting road</li> <li>■ Road lighting</li> <li>■ Telecommunications</li> <li>■ Mechanical installations and machinery</li> <li>■ Safety plan</li> </ul>

NAROČNIK CLIENT	ZAKLJUČEK REVIZIJE AUDIT CONCLUSION	PREGLEDANO V SKLOPU REVIZIJE IN RECENZIJE INSPECTED AS PART OF REVIEW AND AUDIT
<p>Ministrstvo za obrambo</p> <p>Ministry of Defence</p>	<p>AVGUST/AUGUST 2009</p>	<p><b>II. FAZA:</b> ploščadi in vozne steze</p> <ul style="list-style-type: none"> <li>■ načrt gradbenih konstrukcij (ploščadi in voznih stez, EKK, razsvetljava na območju air side, telekomunikacijska kabelska kanalizacija)</li> <li>■ dimenzioniranje zgornjega ustroja ploščadi in voznih stez</li> <li>■ odvodnjavanje ploščadi</li> <li>■ električne inštalacije in oprema (sistem osvetlitve za usposobitev letališča po pogojih CAT 1, razsvetlitev ploščadi, elektro inštalacije in oprema na območju air side)</li> <li>■ TK povezave na območju air side</li> <li>■ varnostni načrt</li> </ul> <p><b>PHASE II:</b> Platforms and runways</p> <ul style="list-style-type: none"> <li>■ Plan of structures (platforms and runways, electric cable ducts, lighting in the air side area, telecommunication cable ducts)</li> <li>■ Dimensioning of platform and runway superstructure</li> <li>■ Platform drainage</li> <li>■ Electric installations and equipment (lighting system for equipping the airport according to CAT 1 requirements, platform lighting, electric installations and equipment in the air side area)</li> <li>■ Telecommunication links in the air side area</li> <li>■ Safety plan</li> </ul>
	<p>JANUAR/JANUARY 2010</p>	<p><b>III. FAZA:</b> skladiščni in garažni objekti s pripadajočo infrastrukturo</p> <ul style="list-style-type: none"> <li>■ načrt arhitekture (hangar, skladišče minsko eksplozivnih sredstev, skladišče, garaža, skladišče za kisik)</li> <li>■ načrt gradbenih konstrukcij (hangar, skladišče minsko eksplozivnih sredstev, skladišče, garaža, skladišče za kisik)</li> <li>■ načrt gradbenih konstrukcij (skladiščna ploščad, ploščad za vzdrževanje letal, zunanja ureditev)</li> <li>■ načrt električnih inštalacij</li> <li>■ načrt strojnih inštalacij</li> </ul> <p><b>PHASE III:</b> Storage and garage facilities with accompanying infrastructure</p> <ul style="list-style-type: none"> <li>■ Architectural plan (hangar, mine and explosive storage, warehouse, garage, oxygen storage)</li> <li>■ Construction plan (hangar, mine and explosive storage, warehouse, garage, oxygen storage)</li> <li>■ Construction plan (storage platform, aircraft maintenance platform, exterior arrangement)</li> <li>■ Electric installation plan</li> <li>■ Mechanical installation plan</li> </ul>





## II. TIR ŽELEZNIŠKE PROGE DIVAČA - ČRNI KAL ODSEK ČRNI KAL - KOPER 2nd TRACK OF DIVAČA – ČRNI KAL RAILWAY LINE ČRNI KAL – KOPER SECTION

NAROČNIK	ZAKLJUČEK REVIZIJE	PREGLEDANO V SKLOPU REVIZIJE IN RECENZIJE
<p>Ministrstvo za infrastrukturo in prostor</p>	<p>AVGUST 2010</p>	<ul style="list-style-type: none"> <li>■ načrt gradbenih konstrukcij - dostopne poti do predorov</li> <li>■ krajinska arhitektura</li> <li>■ gradbene konstrukcije objektov na trasi proge (viadukt Gabrovica, predora s servisnimi cevmi, oporne in podporne konstrukcije, prepusti)</li> <li>■ vodovod</li> <li>■ vodohrani</li> <li>■ transformatorske postaje (gradbeni + elektro del)</li> <li>■ protihrupna zaščita ob progi</li> <li>■ elektro inštalacije in oprema (korozijska katodna zaščita, SVTK naprave, električno napajanja varnostnih sistemov v predorih – elektroenergetski del, načrt zasilne razsvetljave v predorih, močnostne inštalacije v predorih, varnostni sistem, nadzor in vodenje, 20kV napajanje predora, naprave nadzornega sistema</li> <li>■ strojne inštalacije in strojna oprema za požarno vodo ter strojne instalacije v predorih</li> <li>■ varnostni načrt</li> </ul>

Trasa drugega tira železniške proge se prične v Divači, kjer se navezuje na izvozni del postaje Divača in poteka do Kopra, kjer se trasa zaključi na cepišču Bivje.

Dolžina odseka drugega tira železniške proge je 27,101 km.



CLIENT	AUDIT CONCLUSION	INSPECTED AS PART OF AUDIT
<p>Ministry of Infrastructure and Spatial Planning</p>	<p>AUGUST 2010</p>	<ul style="list-style-type: none"> <li>■ Construction plan – access roads to tunnels</li> <li>■ Landscape architecture</li> <li>■ Structures on the railway line route (Gabrovica viaduct, tunnel with service tubes, retaining and support structures, culverts)</li> <li>■ Water supply line</li> <li>■ Reservoirs</li> <li>■ Transformer stations (construction + electric part)</li> <li>■ Noise protection alongside the railway line</li> <li>■ Electric installations and equipment (cathode corrosion protection, signal, safety and telecommunication devices, power supply for safety systems in tunnels – power section, plan of emergency lighting in tunnels, power installations in tunnels, safety system, surveillance and management, 20kV tunnel power supply, surveillance system devices</li> <li>■ Mechanical installations and machinery for fire fighting water and mechanical installations in tunnels</li> <li>■ Safety plan</li> </ul>

The route of the second track of the railway line starts at Divača, where it connects with the exit section of the Divača station and runs towards Koper, ending at the Bivje bifurcation.

The length of the section of the second track of the railway line is 27.101 km.



## OSKRBA POMURJA S PITNO VODO SISTEM B DRINKING WATER SUPPLY FOR POMURJE SYSTEM B

NAROČNIK CLIENT	ZAKLJUČEK RECENZIJ REVIEW CONCLUSION	PREGLEDANO V SKLOPU RECENZIJ INSPECTED AS PART OF REVIEW
občina Gornji Petrovci  Municipality of Gornji Petrovci	NOVEMBER/NOVEMBER 2010	<ul style="list-style-type: none"> <li>■ načrt gradbenih konstrukcij</li> <li>■ načrt strojnih inštalacij</li> <li>■ Construction plan</li> <li>■ Mechanical installation plan</li> </ul>

Vodovodno omrežje v skupni dolžini 392.351 m obsega 11 občin in sicer Cankova, Gornji Petrovci, Beltinci, Hodoš, Kuzma, Moravske Toplice, MO Murska Sobota, Puconci, Rogašovci, Šalovci in Tišina.

The water supply network, totalling 392,351 m in length, encompasses 11 municipalities, specifically: Cankova, Gornji Petrovci, Beltinci, Hodoš, Kuzma, Moravske Toplice, City Municipality of Murska Sobota, Puconci, Rogašovci, Šalovci and Tišina.



## BAZNE POSTAJE BASE STATIONS

NAROČNIK CLIENT	PREGLEDANO V SKLOPU REVIZIJE INSPECTED AS PART OF AUDIT
Telekom Slovenije	<ul style="list-style-type: none"><li>■ gradbene konstrukcije</li><li>■ elektro inštalacije</li><li>■ Structures</li><li>■ Electric installations</li></ul>

Bazne postaje so zahtevni objekti s telekomunikacijskimi sistemi in jeklenimi konstrukcijami (stolpi) višine do 40 m.

Revidirano je bilo okoli 40 projektov.

Base stations are demanding structures with telecommunication systems and steel structures (columns) standing up to 40 tall.

Approx. 40 projects were revised.



## **RECENZIJE** ZA DARS, DRUŽBO ZA AVTOCESTE V REPUBLIKI SLOVENIJI D.D. **REVIEWS** FOR DARS, MOTORWAY COMPANY IN THE REPUBLIC OF SLOVENIA

2007 - 2009	2010 - 2011
<ul style="list-style-type: none"><li>■ okoli 100 obravnav na leto</li><li>■ pregledano več kot 300 načrtov projektne dokumentacije (študij, idejnih projektov, strokovnih podlag, PGD in PZI)</li> <li>■ Approx. 100 assessments per year</li><li>■ Over 300 plans of project documentation reviewed (studies, preliminary designs, expert bases, basic designs and detailed designs)</li></ul>	<ul style="list-style-type: none"><li>■ okoli 40 obravnav na leto</li><li>■ pregledano več kot 100 načrtov projektne dokumentacije (študij, idejnih projektov, strokovnih podlag, PGD in PZI)</li> <li>■ Approx. 40 assessments per year</li><li>■ Over 100 plans of project documentation reviewed (studies, concept designs, expert bases, basic designs and detailed designs)</li></ul>

#### Področje cestnih projektov

- ceste, priključki, razcepi, križišča
- objekti na cestah
- odvodnja
- voziščne konstrukcije
- arhitektura
- prometna oprema in varnost prometa
- vodna, komunalna, energetska in informacijska infrastruktura

#### Področje predorogradnje

- predori, jaški, rovi in drugi podzemni objekti

#### Področje elektrostrojne opreme predorov in pokritih vkopov ter elektro in telekomunikacijske naprave

- elektrostrojna oprema predorov in pokritih vkopov
- nadzor in vodenje prometa
- sistem klic v sili in sistem, prenosa signalov in podatkov
- javna razsvetljava
- prestavitve in zaščite elektroenergetskih vodov in prestavitve in zaščite telekomunikacijskih (TK) vodov

#### Področje prometa in ekonomike prometa

- prometne analize in študije,
- prometna in ekonomske primerjave variant
- študije in predštudije (ekonomske) upravičenosti
- in drugi elaborati

#### Področje okolje in prostor

- strokovne podlage v smislu upoštevanja okoljevarstvene zakonodaje
- poročila o vplivih na okolje
- prostorski akti
- PGD v smislu upoštevanja okoljevarstvenih predpisov

#### Področje geotehnike in hidrogeologije

- študije, elaborati in projektna dokumentacija, ki zadeva geotehniko in hidrologijo

#### Področje visokogradnje

- cestninske postaje
- avtocestne baze in centri za vodenje prometa
- portalni objekti pri predorih
- mejni prehodi
- počivališča in oskrbovalni centri
- nadomestni objekti
- odstranitev obstoječih stavb na ali tik ob trasah avtocest in drugih cest
- in druge stavbe

#### Road projects

- Roads, access and exit points, bifurcations, intersections
- Structures on roads
- Drainage
- Pavement structures
- Architecture
- Traffic equipment and traffic safety
- Water, public utility, power and IT infrastructures

#### Tunnel construction

- Tunnels, shafts, passages and other underground structures

#### Electro-mechanical equipment in tunnels and cut-and-covers and electric and telecommunication devices

- Electro-mechanical equipment in tunnels and cut-and-covers
- Traffic supervision and management
- Emergency call system and signal and data transmission system
- Public lighting
- Relocation and protection of power lines and
- Relocation and protection of telecommunication lines

#### Transport and economics of transport

- Transport analyses and studies,
- Variant comparisons with respect to transport and from the economic aspect
- (Economic) justifiability studies and preliminary studies
- and other studies

#### Environment and spatial planning

- Expert bases in terms of compliance with environmental protection legislation
- Environmental impact reports
- Spatial acts
- Basic designs in terms of compliance with environmental protection regulations

#### Geotechnics and hydrogeology

- Studies, project documentation related to geotechnics and hydrology

#### Building construction

- Toll stations
- Motorway bases and traffic management centres
- Portal structures at tunnels
- Border crossings
- Rest areas and supply centres
- Replacement structures
- Removal of existing buildings on or alongside routes of motorways and other roads
- and other buildings

#### **PGD, GC G1-11 Koper-Dragonja odsek 0162, obvozna cesta Dragonja**

cestni del, dimenzioniranje križišča, GG elaborat za traso in most, prometna ureditev, kanalizacija, kontrolirana odvodnja, regulacije, vodovod, most 5-1, prepusti, PH zaščita, krajinska arhitektura, EE SN in NN vodi, javna razsvetljava, telekomunikacije (Telekom, MORS), signalizacija križišča, gradbeni del TP.

#### **PGD, GC Želodnik-Mengeš z obvoznico pododsek 3. faza Poslovna cona Želodnik-Mengeš, od km 1,300 do km 5,860**

cestni del, prometna ureditev od km 3,840-km 5,860; GG elaborat za traso od km 1,300 do km 3,840 in od km 3,840-5,860, mosta 5-4 in 5-6, mosta 5-4 in 5-6, javna razsvetljava, semaforizacija, napoved hrupa in izdelava predloga protihrupne zaščite leta 2023/2033.

#### **Strokovne podlage za DPN, AC Brezovica-Vrhnika, AC priključek Brezovica**

elaborat dimenzioniranja križišča priključka, cestni del - zahodna obvoznica Brezovica - izvennivojski priključek Brezovica, prometna ureditev, objekti, načrt ukrepov za zaščito voda pred onesnaženjem, fekalna kanalizacija, načrt regulacij vodotokov, vodovod, načrt električnega omrežja, javna razsvetljava, semaforizacija, TK vodi, krajinska arhitektura, študija hrupne obremenjenosti in predlog PH zaščite.

#### **IDP (strokovne podlage za DPN), HC Koper-Dragonja**

premostitveni objekti (podvozi, prepusti, prehodi za divjad, nadvozi, mostovi, viadukti, pokriti vkop, predor), vodnogospodarske ureditve, regulacije, lokalna kanalizacija za meteorno vodo, lokalni cevovodi za odpadno vodo, prestavitve EE in TK vodov, javna razsvetljava, klic v sili, oskrbna postaja, AC baza, študija hrupa.

#### **PGD, rekonstrukcija krožnega križišča Tomačevo v semaforizirano krožno križišče**

GG elaborat, načrt gradbenih konstrukcij - cesta, prometna situacije, dimenzioniranje voziščne konstrukcije, podporna zidova A i GD, razširitev podvoza za rekreacijsko pot, javna razsvetljava in semaforizacija, prestavitve SN KB ob krožišču, napoved hrupa in izdelava predloga PH zaščite leta 2020, aktivna PH zaščita, krajinska arhitektura.

#### **Idejni projekt; HC Dravograd - Šentrupert, odsek Velenje - Šentrupert**

GG elaborat, trasa HC s priključki in deviacijami, dimenzioniranje voziščne konstrukcije, prometna oprema, kanalizacija in odvodnjavanje, regulacije, zaščita, prestavitve vodovodov, krajinska arhitektura, ocena napovedi hrupa, aktivna protihrupna zaščita, predori, premostitveni objekti, oporni in podporni zidovi.

#### **Basic design, G1-11 Koper-Dragonja MR, section 0162, Dragonja bypass**

Road part, intersection dimensioning, GG study for route and bridge, traffic arrangement, sewage network, controlled drainage, regulations, water supply line, bridge 5-1, culverts, noise protection, landscape architecture, medium-and low-voltage power lines, public lighting, telecommunications (Telekom, Ministry of Defence of the Republic of Slovenia), signals at intersection, construction part of transformer station.

#### **Basic design Želodnik-Mengeš MR with bypass subsection Phase 3 Želodnik-Mengeš business zone, from km 1.300 to km 5.860**

Road part, traffic regulation from km 3.840 to km 5.860; GG study for route from km 1.300 to km 3.840 and from km 3.840 to km 5.860, bridges 5-4 and 5-6, public lighting, traffic lights, noise forecast and elaboration of proposed noise protection for 2023/2033.

#### **Expert bases for National Spatial Plan, Brezovica-Vrhnika MW, Brezovica MW access and exit point**

Study for dimensioning the access and exit point intersection, road part - western Brezovica bypass - Brezovica grade-separated access and exit point, traffic arrangement, structures, plan of measures from preventing water pollution, faecal sewage network, plans of waterway regulation, water supply line, electric power grid plan, public lighting, traffic lights, telecommunication lines, landscape architecture, noise load study and proposed noise protection.

#### **Preliminary Design (expert bases for NSP), Koper - Dragonja EW**

Bridge structures (underpasses, culverts, passages for game, overpasses, bridges, viaducts, cut-and-covers, tunnels), water management arrangements, regulations, local sewage network for precipitation water, local wastewater pipelines, relocations of power and telecommunication lines, public lighting, emergency calls, supply station, MW base, noise study.

#### **Basic Design, reconstruction of Tomačevo roundabout into roundabout equipped with traffic lights**


GG study, plan of structures - road, traffic situations, dimensioning of pavement structure, retaining walls A and GD, widening of underpass for recreational path, public lighting and traffic lights, relocation of medium-voltage KB at roundabout, noise forecast and elaboration of proposal for noise protection in 2020, active noise protection, landscape architecture.

#### **Preliminary design; Dravograd - Šentrupert EW, Velenje - Šentrupert section**

GG study, EW route with access and exit points and deviations, pavement structure dimensioning, traffic equipment, sewage network and drainage, regulations, protection, relocation of water supply line, landscape architecture, noise forecast assessment, active noise protection, tunnels, bridge structures, retaining and supporting walls.

- **Produkcija | Production**  
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- **Oblikovanje | Design**  
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- **Fotografije | Photography**  
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